UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/580,965	05/31/2006	Michel Monncrat	Q94919	2539

23373   7590   10/26/2007

SUGHRUE MION, PLLC
2100 PENNSYLVANIA AVENUE, N.W.
SUITE 800
WASHINGTON, DC 20037

EXAMINER
MULL, FRED H

ART UNIT	PAPER NUMBER
3662	

MAIL DATE	DELIVERY MODE
10/26/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/580,965	MONNERAT, MICHEL
	Examiner	Art Unit
	Fred H. Mull	3662

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-9* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *31 May 2006* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All   b)☐ Some *   c)☐ None of:

      1.☒ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Drawings

1.   Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g).

2.   The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the reception assistance data must be shown or the feature(s) canceled from the claim(s). This could be shown by an arrow point up to 23, 22, and 21 labeled "assistance data". No new matter should be entered. Note that the specification should be amended to describe the additional feature/drawing, and if a new drawing is submitted, a brief description of that drawing must be added.

3.   The drawings are objected to because items 11-13, 21-23, 31-33, 41, and 51 in Fig(s). 2 should be labeled.

Someone looking at any drawing should be able to get some sense of what the invention is about (i.e., the inventive feature(s)) without an in depth reading of the specification. This is especially important because examiners use the drawings to help them identify prior art. Note that it is to the **applicant's advantage** to make the drawings as helpful as possible to the examining corps, in order to ensure that her/his patent will be found and used as prior art against a possible future similar invention, and thus avoid unnecessary litigation. The drawing that is put on the face of the patent is especially important, because it is first one an examiner sees when viewing a prior art patent.

Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

4.   Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in <u>narrative form</u> and generally limited to a <u>single paragraph</u> on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. <u>The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided.</u> The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. <u>It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.</u>

Claim Objections

5.   Claim 1 is objected to because of the following informalities:

In line 2, "RNSS" should be replaced with --Radio Navigation Satellite System

(RNSS)--.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6.   Claims 1-9 are rejected under 35 U.S.C. 103(a) as·being unpatentable over IDS

document Ma in view of any one of {Krasner '734, Krasner '427, and King}.

In regard to claim 1, Ma discloses:

said receiver receiving a signal transmitted by a plurality of satellites and

corresponding to a sum of signals each transmitted by a·satellite and each modulated

by a spread spectrum signal characteristic of said satellite (12, Fig. 1; col. 3, lines 11-

13),

said receiver generating a plurality of local duplicates each of which is the

duplicate of a spread spectrum signal characteristic of a satellite (26),

correcting the frequency of each of said local duplicates by compensating the

Doppler effect of each of said satellites (34; col. 4, lines 61-63),

summing said plurality of corrected duplicates (26; col. 3, lines 36-39), and

determining the correlation function as a function of time between the sum of said

plurality of corrected duplicates and said satellite data signal (30, 32; col. 3, lines 44-

50).

Ma fails to disclose using assistance data sent by an assistance server to said

mobile device as the source of the Doppler effect correction.

Ma discloses that a Doppler correction is made to the local duplicate (reference

code) for initial acquisition (col. 4, lines 61-63), but fails to state the origin of this Doppler

correction. It is noted that once acquisition begins, there is a loop process to update the

Doppler correction, where the result of the correlation function from 32 is input into 34.

But prior to initial acquisition, there is no output from 32, so no initial Doppler correction

would be available. A Doppler correction would only be available after the first

correlation is completed and there was an output from 32. Since Ma specifically states

that "For initial acquisition, a Doppler correction reference code" [local duplicate] is used

(col. 4, lines 61-63), a different source is necessary for this initial Doppler correction.

Ma fails to disclose this source.

Krasner '734 (col. 3, lines 22-27; col. 5, lines 56-65), Krasner '427 (col. 10, lines

26-32; col. 16, lines 3-10), and King (col. 12, lines 6-11) disclose using Doppler effect

correction assistance data sent by an assistance server to a mobile device to allow the

user to rapidly compensate for Doppler effect. It would have been obvious to use this

known source of Doppler correction as the source for the initial Doppler correction

required in Ma. This source allows rapid compensation of Doppler effect, faster than

other methods of determining Doppler correction that occur entirely at the mobile

device.

In regard to claim 2, Ma further discloses identifying each of the satellites

associated with each of the correlation peaks revealed by said correlation function (Fig.

2; col. 3, lines 54-61).

In regard to claim 3, Ma further discloses identifying the synchronization time

associated with a correlation peak, determining a plurality of correlations calculated for

said synchronization time between each of said corrected duplicates and said satellite

data signal, and identifying the satellite associated with said correlation peak as a

function of said correlations (Fig. 2; col. 3, lines 54-61).

In regard to claim 4, Ma further discloses said peak is a main peak of said correlation function as a function of time (Fig. 2; col. 3, lines 54-61).

In regard to claim 5, Ma further discloses that after at least one satellite has been identified, each of the remaining satellites is identified, using assistance data sent to said mobile device from an assistance server, said assistance data including the ephemerides of said satellites and the identifier of the cell in which said mobile device is located, by determining the propagation time difference of a signal between said satellites already identified and said mobile terminal, on the one hand, and each of the satellites to be identified and said mobile device, on the other hand (Fig. 2; col. 3, lines 54-61).

In regard to claim 6, Ma further discloses each of said satellites is identified by the following steps: identifying the synchronization time associated with a correlation peak, determining a plurality of correlations calculated for said synchronization time between each of said corrected duplicates and said satellite data signal, and identifying the satellite associated with said correlation peak as a function of said correlations (Fig. 2; col. 3, lines 54-61).

In regard to claim 7, Ma further discloses:

summing the corrected duplicates (col. 3, lines 36-39),

determining the Fourier transform of said corrected duplicates (28, Fig. 1),

determining the Fourier transform of said satellite data signal (22),

multiplying the correct duplicate Fourier transform by the Fourier transform of said satellite data signal (30), and

determining the inverse Fourier transform of the product obtained by the preceding step (32).

Ma fails to disclose taking the Fourier transforms of each of the corrected duplicates prior to summing, instead he performs summation of the corrected duplicates first and then takes the Fourier transform (col. 3, lines 36-39). However, the two processes are mathematically equivalent.

In regard to claim 8, Ma further discloses:

means for generating a plurality of local duplicates each of which is the duplicate of a spread spectrum signal characteristic of a satellite (26, Fig. 1),

means for correcting the frequency of each of said local duplicates by compensating the Doppler effect of each of said satellites (34; col. 4, lines 61-63),

an adder adapted to sum said corrected duplicates (26; col. 3, lines 36-39), and

means for calculating the correlation function as a function of time between each sum of said corrected duplicates and said satellite data signal (30, 32; col. 3, lines 44-50).

Ma fails to disclose using assistance data sent by an assistance server to said mobile device as the source of the Doppler effect correction.

Ma discloses that a Doppler correction is made to the local duplicate (reference code) for initial acquisition (col. 4, lines 61-63), but fails to state the origin of this Doppler correction. It is noted that once acquisition begins, there is a loop process to update the Doppler correction, where the result of the correlation function from 32 is input into 34. But prior to initial acquisition, there is no output from 32, so no initial Doppler correction

would be available. A Doppler correction would only be available after the first correlation is completed and there was an output from 32. Since Ma specifically states that "For initial acquisition, a Doppler correction reference code" [local duplicate] is used (col. 4, lines 61-63), a different source is necessary for this initial Doppler correction. Ma fails to disclose this source.

Krasner '734 (col. 3, lines 22-27; col. 5, lines 56-65), Krasner '427 (col. 10, lines 26-32; col. 16, lines 3-10), and King (col. 12, lines 6-11) disclose using Doppler effect correction assistance data sent by an assistance server to a mobile device to allow the user to rapidly compensate for Doppler effect. It would have been obvious to use this known source of Doppler correction as the source for the initial Doppler correction required in Ma. This source allows rapid compensation of Doppler effect, faster than other methods of determining Doppler correction that occur entirely at the mobile device.

In regard to claim 9, Ma further discloses a mobile device incorporating an RNSS satellite navigation receiver according to claim 8 (10, Fig. 1; col. 1, line 61 to col. 2, line 20).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fred H. Mull whose telephone number is 571-272-6975. The examiner can normally be reached on Monday through Friday from approximately 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Thomas H. Tarcza can be reached on 571-272-6979. The fax phone

number for the organization where this application or proceeding is assigned is 571-

273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Fred H. Mull
Examiner
Art Unit 3662

/FHM/

THOMAS H. TARCZA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600